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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/023,512 | 12/18/2001 | Jamal Seyed-Yagoobi | W-W Case 51 | 4597 |

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EXAMINER

LEO, LEONARD R

ART UNIT PAPER NUMBER

3753

DATE MAILED: 04/19/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/023,512

Applicant(s)

SEYED-YAGOOBI ET AL.

Examiner

Leonard R. Leo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) 4-10, 12, 15, 19-22, 27-33, 35, 38, 42-45 and 49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 11, 13, 14, 16-18, 24-26, 34, 36, 37, 39-41, 47 and 48 is/are rejected.
- 7) ☒ Claim(s) 23 and 46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

The amendment filed on January 30, 2004 has been entered. Claims 1-49 are pending, and claims 4-10, 12, 15, 19-22, 27-33, 35, 38, 42-45 and 49 remain withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 48 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim recites "at least one" heat transfer member in line 2 and "plural" heat transfer members in lines 8-9. The claim is indefinite when only "one" heat transfer member is read.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 11, 13-14, 24-26, 34, 36-37 and 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seyed-Yagoobi et al in view of Itoh et al.

Seyed-Yagoobi et al discloses all the claimed limitations except surface alterations.

Itoh et al discloses an EHD pumping device comprising an AC voltage source 9 and a cylindrical transfer member 4 (column 5, line 64 to column 6, line 8) with electrical conductor 1

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disposed in a recess and coplanar to the transfer member outer surface (Figure 8) for the purpose of minimizing obstruction with the motive particles along the transfer member surface.

Since Seyed-Yagoobi et al and Itoh et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Itoh et al would have been recognized in the pertinent art of Seyed-Yagoobi et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Seyed-Yagoobi et al the electrical conductor disposed in a recess and coplanar to the transfer member outer surface for the purpose of minimizing obstruction with the motive particles along the transfer member surface as recognized by Itoh et al.

Regarding claims 13-14, Itoh et al discloses the electrical conductor (i.e. insulated in Seyed-Yagoobi et al) may be any shape, i.e. rectangle or square (column 6, lines 26-30). In the combination, the insulated electrical conductor would be recessed and coplanar with the outer surface of the transfer member.

Regarding claim 24, Figure 1 of Seyed-Yagoobi et al discloses plural heat transfer members 18.

Regarding claims 36-37, the claims are rejected as applied to claims 13-14 above.

Regarding claims 47 and 48, the claims are met by the combination of references, since the scope is broader than claims 1 and 24, respectively.

Claims 16-18 and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seyed-Yagoobi et al in view of Itoh et al as applied to claims 1-3, 11, 13-14, 24-26, 34, 36-37 and 47-48 above, and further in view of Knight.

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The combined teachings of Seyed-Yagoobi et al and Itoh et al lacks plural groups of electrical conductors.

Knight discloses an EHD pumping device comprising an AC voltage source 24 and a cylindrical transfer member 12 and a plurality of electrical conductors 40 disposed in plural groups 36 spaced along the transfer member for the purpose of providing pulsatile flow.

Since Seyed-Yagoobi et al and Knight are both from the same field of endeavor and/or analogous art, the purpose disclosed by Knight would have been recognized in the pertinent art of Seyed-Yagoobi et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Seyed-Yagoobi et al plural groups of electrical conductors spaced along the transfer member for the purpose of providing pulsatile flow as recognized by Knight.

Allowable Subject Matter

Claims 23 and 46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Regarding the withdrawal of claims 4-5 and 27-28, applicants' specification does not disclose the limitations of claim 4-5, except in paragraph 28 with respect to Figures 8A-8c. In the elected species, it is not clearly understood how the "longitudinal direction" of the "wave" will be perpendicular to a helical electrical conductor. The Examiner understands that at a

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magnified perspective fluid will traverse the conductor in a perpendicular direction. However, the fluid cannot be truly perpendicular to the helical conductor on the tube.

The claim objections are withdrawn.

Seyed-Yagoobi et al (WO 00/71957) was published on November 30, 2000 and qualifies as prior art under 35 USC 102(b). U.S. Patent No. 6,409,975 is not of record and is not being applied in the grounds of rejection. Therefore, applicants' "Statement of Common Ownership" is not applicable to overcome the grounds of rejection.

Again, applicants are reminded of their duty to disclose under 37 CFR § 1.56, which states in part:

Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned.

In this respect, the Examiner requests all publications, not of record in this application, associated with the commonly invented U.S. Patent No. 6,409,975. Applicants must acknowledge this request or future communications will be considered nonresponsive.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

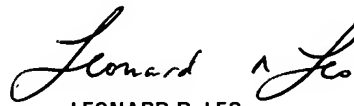
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry of a general nature, relating to the status of this application or clerical nature (i.e. missing or incomplete references, missing or incomplete Office actions or forms) should be directed to the Technology Center 3700 Customer Service whose telephone number is (703) 306-5648. Status of the application may also be obtained from the Internet: <http://pair.uspto.gov/cgi-bin/final/home.pl>

Any inquiry concerning this Office action should be directed to Leonard R. Leo whose telephone number is (703) 308-2611.


LEONARD R. LEO
PRIMARY EXAMINER
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April 18, 2004